

REMARKS

Introduction

Claims 1-3, 5-8, 10-11, 14-15, 17-19 and 23 are pending in this application. By this response, claims 4, 9, 12-13, 16, 20-22 and 24 have been cancelled, without prejudice and disclaimer. Claims 1-3, 6-8, 11, 14-15, 17 and 24 have been amended to correct informalities in the claim language and to more clearly define the present subject matter. Care has been taken to avoid introducing new matter. In view of the foregoing amendments and the following remarks, Applicants respectfully submit that all pending claims are in condition for allowance.

Substance of Interview

Applicants thank the Examiner for his time and courtesy during an interview conducted with the Applicants' representative, Takashi Saito, on September 23, 2009. During the interview, it was argued that the proposed amendments to claims 1, 6 and 17 would likely overcome the current rejections, with which the Examiner agreed. With respect to claims 3 and 8, it was argued that the Examiner's interpretation of Johannsen is inconsistent. Specifically, it was argued that although the Examiner asserts that the hydrophobic film of FIG. 3 of Johannsen corresponds to the second insulating film of claim 1, the Examiner asserts that the SiN film, which is disclosed as a hydrophilic material in Johannsen, corresponds to the SiN film of claim 3. Since the SiN film of claim 3 is the second insulating film, it was argued that the Examiner's construction of Johannsen is inconsistent, with which the Examiner agreed.

Objection to the Amendment

The Examiner objected to the amendment made to claims 13, 16 and 22. Since claims 13, 16 and 22 have been cancelled, it is requested that the Examiner withdraw this objection.

Claim Rejections Under 35 U.S.C. § 102

Claims 1, 5 and 17 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,142,073 (Agneus et al.). This rejection is traversed for at least the following reasons.

Applicants respectfully submit that Agneus fails to disclose the features of amended claim 1. The Examiner asserts that plate 3, metallic layer 4, second plastic film 2 of Agneus correspond to the claimed first electrode, second electrode and first insulating film, respectively. However, there is no air gap between the alleged first electrode and the first insulating film in Agneus. Further, it is clear that Agneus fails to disclose a lower insulating film formed on the alleged second electrode. Furthermore, Agneus fails to disclose that the lower insulating film and the second insulating film are silicon nitride films.

As such, it is clear that, at a minimum, Agneus fails to disclose the above identified features of amended claim 1. Accordingly, claims 1 and 5 are patentable over Agneus. Thus, it is requested that the Examiner withdraw the rejection of claims 1 and 5 under 35 U.S.C. § 102(b).

Applicants further submit that Agneus fails to disclose the features of amended claim 17. Specifically, it is clear that, at a minimum, Agneus fails to disclose that a second insulating film touches all of upper, lower and side surfaces of the first insulating film, and the second insulating film is a silicon nitride film. In Agneus, the alleged second insulating film does not touch the

lower surface of the alleged first insulating film. Also, similar to claim 1, Agneus fails to disclose that the material of the alleged second insulating film is silicon nitride.

As such, it is clear that, at a minimum, Agneus fails to disclose the above identified features of amended claim 17. Accordingly, claim 17 is patentable over Agneus. Thus, it is requested that the Examiner withdraw the rejection of claim 17 under 35 U.S.C. § 102(b).

Claim Rejections Under 35 U.S.C. § 103

Claims 1, 6, 11, 13-20 and 22-24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,490,220 (Loeppert) in view of U.S. Publication No. 2002/0181725 (Johannsen). Claims 2 and 7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Loeppert in view of Johannsen as applied to claim 1 above, and further in view of Majamaa (Effect of Oxidation Temperature on the Electrical Characteristics of Ultrathin Silicon Dioxide Layers Plasma Oxidized in Ultrahigh Vacuum). Claims 3 and 8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Loeppert in view of Johannsen as applied to claim 1 above, and further in view of Ross (Effects of Silicon Nitride Growth Temperature on Charge Storage in the MNOS Structure). Claims 10, 12 and 21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Loeppert in view of Johannsen as applied to claims 1 and 6 above, and further in view of U.S. Patent No. 7,039,202 (Takeuchi). These rejections are traversed for at least the following reasons.

Applicants respectfully submit that, at a minimum, none of the cited references discloses or suggests that the second insulating film is a silicon nitride film as recited by claims 1, 6 and 17. In rejecting original claims 3, 8 and 24, the Examiner asserts that paragraph [0019] of Johannsen discloses Si_xN_y as the claimed second insulating material, while in rejecting claims 1 and 6, the

Examiner asserts that the dotted line (i.e., a coating material) of FIG. 3 of Johannsen corresponds to the claimed second insulating film. However, Johannsen discloses that the coating material is a hydrophobic material (see, paragraph [0065] of Johannsen), while paragraph [0019] of Johannsen discloses that the Si_xN_y is a hydrophilic material. As such, it is clear that, at a minimum, Johannsen fails to disclose that the claimed second insulating material is silicon nitride.

Further, Applicants respectfully submit that it would not have been obvious to modify the alleged second insulating film of Johannsen to silicon nitride. It is clear that the objective of Johannsen is to provide a hydrophobic layer to the inner parts of a microstructure (see, paragraph [0006]). Thus, replacing such a hydrophobic layer with a silicon nitride film, which is a hydrophilic material, would clearly impair the purpose and function of the Johannsen's device. Applicant respectfully note that it has been repeatedly held that one having ordinary skill in the art cannot be presumed realistically motivated to modify a reference in a manner inconsistent with the disclosed objectives. *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992); *In re Gordon*, 733 F.2d. 900, 221 USPQ 1125 (Fed. Cir. 1984); *In re Schulpen*, 390 F.2d. 1009, 157 USPQ 52 (CCPA 1968). As such, it is submitted that it would not have been obvious to modify the alleged second insulating film of Johannsen (i.e., a coating layer) to silicon nitride.

Further, Applicants respectfully submit that none of the remaining cited references discloses or suggest that a second insulating film formed so as to cover the surfaces of the first insulating film is a silicon nitride film, as recited by claims 1, 6 and 17. Accordingly, claims 1, 6 and 17 and all claims dependent thereon are patentable over the cited references.

Furthermore, Applicants submit that claim 17 has been amended to incorporate the features of original claim 21. In rejecting original claim 21, the Examiner asserts that "Takeuchi

teaches [a] second insulating film (e.g. Fig. 4 'PF', 'IF2') being formed to be in contact with the upper ('PF'), side ('PF') and lower ('IF2') surfaces of the first insulating film (Fig. 4 'IL2')."

Applicants, however, submit that 'IL2' of Takeuchi is a wiring film, which cannot be an insulating film (see, col. 8, lines 28-36 of Takeuchi). As such, it is clear that Takeuchi discloses a structure in which a conductive layer (i.e., a wiring layer) is enclosed by insulating films. In contrast, in claim 17, a second insulating film is formed so as to touch all of upper, lower and side surfaces of the first insulating film. In other words, **the first insulating film** is enclosed by the second insulating film. Accordingly, Applicants respectfully submit that claim 17 is patentable for this reason in addition to the reasons set forth above.

In addition, in rejecting original claims 2, 7 and 23, the Examiner asserts that paragraph [0025] of Johannsen discloses the use of silicon dioxide as the first insulating film. However, the Examiner appears to misunderstand Johannsen. The materials disclosed at paragraph [0025] of Johannsen are materials to which a hydrophobic layer is provided, and are not a hydrophobic layer itself. Thus, Johannsen does not disclose the silicon dioxide film as a hydrophobic material. Rather, as disclosed in paragraph [0019] of Johannsen, silicon dioxide is a hydrophilic material. Accordingly, it is clear that Johannsen fails to disclose the features of claims 2, 7 and 23. Thus, claims 2, 7 and 23 are patentable over the cited references for this reason in addition to the dependency upon claims 1, 6 or 17.

Based on the foregoing, Applicants respectfully request that the Examiner withdraw the rejections of claims 1-3, 6-8 and 10-11, 14-15, 18-19 and 23 under 35 U.S.C. § 103(a).

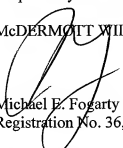
Conclusion

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication for which is respectfully solicited. If there are any outwearing issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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